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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

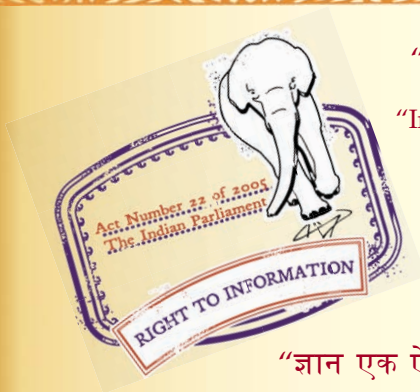
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3817 (1991): Household sewing machines - Arm shaft [MED
29: Sewing Machines]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

घरेलू प्रयोजनों की सिलाई मशीनों की आर्म शाफ्ट — विशिष्ट

(पहला पुनरोक्षण)

Indian Standard

HOUSEHOLD SEWING MACHINES —
ARM SHAFT — SPECIFICATION

(*First Revision*)

UDC 687'053-233'1

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Sewing Machines Sectional Committee had been approved by the Light Mechanical Engineering Division Council.

This standard was first published in 1966. This revision has been undertaken to update the standard in light of the experience gained and to standardize the arm shaft to ensure correct assembly and fitting on to the sewing machine. The main modifications are :

- a) Modification of hardness clause
- b) Modification of the dimensions of the arm shaft

In the preparation of this standard assistance has been derived from JIS B 9025-1963 'Arm Shaft for Sewing Machine for Home Use' issued by the Japanese Industrial Standards Committee.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified values in this standard.

Indian Standard

HOUSEHOLD SEWING MACHINES — ARM SHAFT — SPECIFICATION

(First Revision)

1 SCOPE

This standard specifies the requirements for arm shafts for sewing machines for household purposes.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard :

IS No.	Title
1501 (Part 1) : 1984	Method for Vickers hardness test for metallic materials : Part 1 HV 5 to HV 100 (second revision)
2102 (Part 1) : 1980	General tolerances for dimensions and form and

IS No.

Title

position : Part 1 General tolerances for linear and angular dimensions (second revision)

2500 (Part 1) :
1973 Sampling inspection tables :
Part 1 Inspection by attributes and by count of defects
(first revision)

4905 : 1968 Methods for random sampling

3 NOMENCLATURE

The nomenclature of the arm shaft is shown in Fig. 1.

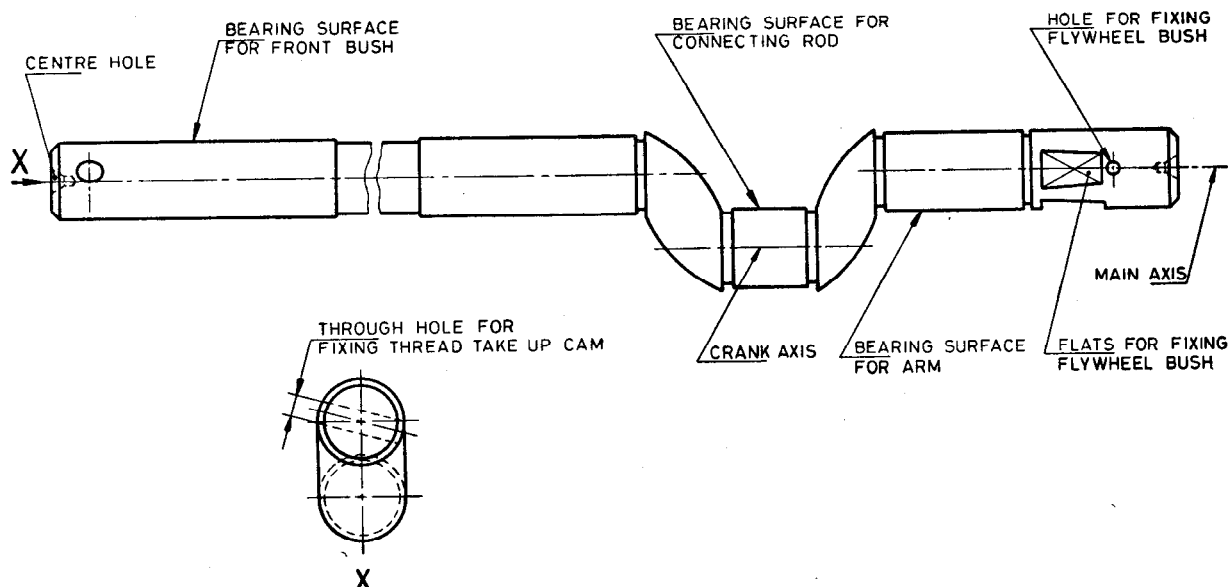


FIG. 1 NOMENCLATURE FOR ARM SHAFT

4 TYPES

The arm shaft shall be of the following two types :

Type A

Type B

5 MATERIAL

Suitable material shall be used for the manufacture of arm shaft.

6 HARDNESS

The bearing surfaces of the arm shaft shall be case hardened to attain a hardness value of minimum 500 HV [see IS 1501 (Part 1) : 1984]

7 DIMENSIONS AND TOLERANCES

7.1 The main dimensions for arm shafts shall be as given in Fig. 2.

7.2 Tolerances on untoleranced dimensions shall be in accordance with medium class of IS 2102 (Part 1) : 1980.

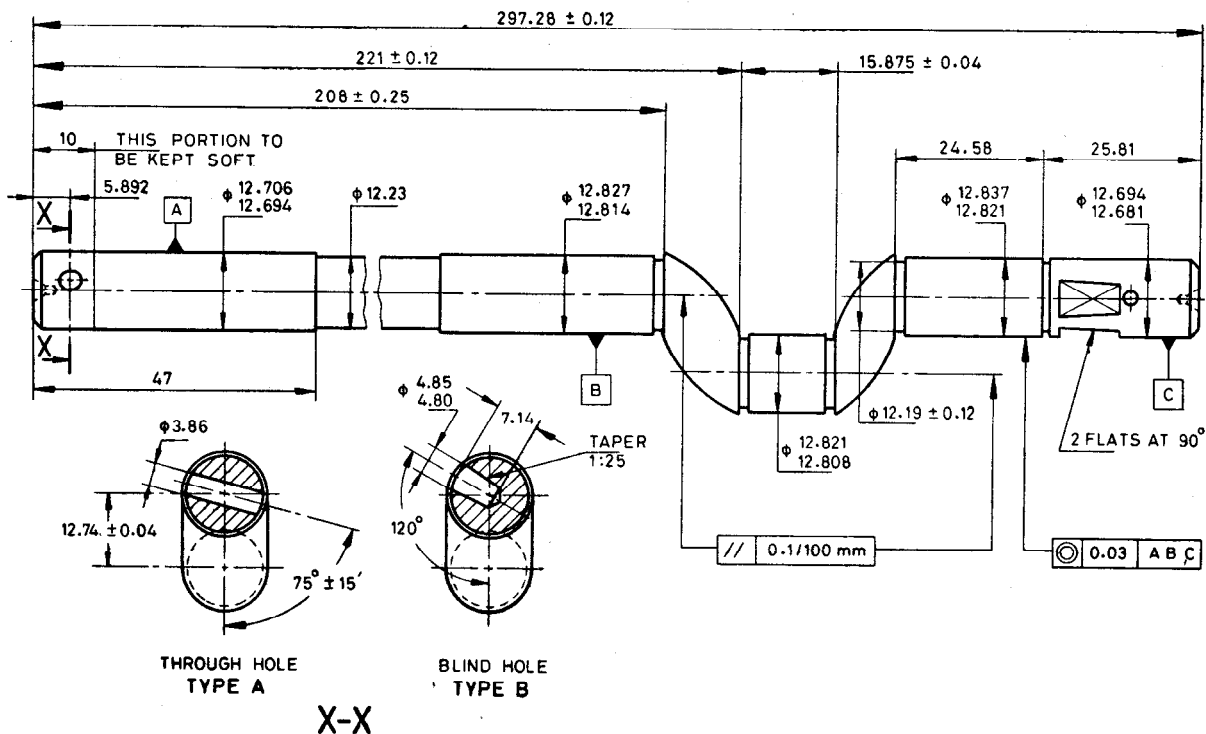
NOTE — The arm shafts may be supplied without thread take up timing screw hole, if so desired by the purchaser.

8 WORKMANSHIP AND FINISH

The arm shafts shall be well finished and free from any defects such as crack, burr, flaw and rust.

9 MARKING

The arm shafts may be marked with indication of the source of manufacture.



Item

Hole for fixing thread take-up cam

Fixing of fly wheel bush

Type A

Through tape. hole for taper dowel pin (drilled in assembly)

Two flats at right angles

Type B

Taper hole for screw

Through taper hole for taper dowel pin (drilled in assembly)

All dimensions in millimetres.
FIG. 2 DIMENSIONS FOR ARM SHAFT

10 PACKING

Each arm shaft shall be given a suitable antirust coating and wrapped in polyethylene bags. The wrapped arm shaft shall be securely packed in accordance with the best prevalent trade practice. Each package shall bear indication of the source of manufacture, type and

description of contents.

11 SAMPLING

Unless otherwise agreed to between the purchaser and the supplier the sampling plan as given in Annex A shall be followed. For further information, reference may be made to IS 2500 (Part 1) : 1973.

ANNEX A

(Clause 11)

SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

A-1 SCALE OF SAMPLING

A-1.1 Lot

In any consignment, all the arm shafts of the same type and manufactured from the same material under essentially similar conditions of manufacture shall be grouped together to constitute a lot.

A-1.2 For ascertaining the conformity of the lot to the requirements of the specification, tests shall be carried out for each lot separately. The number of arm shafts to be selected at random for this purpose shall be in accordance with col 1 and 2 of Table 1.

A-1.3 If the arm shafts are packed individually in order to ensure the randomness of selection, IS 4905 : 1968 shall be used.

A-1.4 If the arm shafts are packed in different cartons, a suitable number of cartons (not less than 20 percent of the total in the lot subject to a minimum of 2) shall be chosen, at random. From each of the cartons so chosen an approximately equal number of arm shafts shall be picked up from its different parts so as to obtain the required number of arm shafts specified in col 2 of Table 1.

A-2 NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

A-2.1 The arm shafts selected according to A-1.2 and A-1.3 or A-1.4 shall be examined for dimensions and tolerances (*see 7*) and workmanship and finish (*see 8*). If the number of arm shaft failing to meet one or more of the requirements mentioned above is less than or equal to the permissible number of defectives

given in col 3 of the Table 1, the lot shall be declared as conforming to the requirements of these characteristics.

A-2.2 In case of those lots which have been found satisfactory according to A-2.1, a number of arm shafts equal to the sample size indicated in col 4 of Table 1, shall be subjected to hardness test (*see 6*). Any arm shaft failing to meet the requirement for hardness shall be considered to be defective.

A-2.2.1 If no defectives are found among the arm shafts subjected to the hardness test (*see A-2.2*), the lot shall be declared as conforming to the requirements of the specification, otherwise not.

Table 1 Scale of Sampling and Permissible Number of Defectives

(Clauses A-1.2, A-1.4, A-2.1 and A-2.2)

No. of Arm Shafts in the Lot	For Dimensions, and Tolerances, Workmanship and Finish and Test		Sample Size for Hardness
	Sample Size	Permissible No. of Defectives ¹⁾	
<i>N</i> (1)	<i>n</i> (2)	(3)	(4)
Up to 15	5	0	2
16 to 40	8	0	3
41 to 110	13	0	3
111 to 300	20	1	5
301 to 500	32	1	6
501 to 800	50	2	8
801 to 1 300	80	3	10
1 301 and above	125	5	15

¹⁾ This ensures that lots containing only $\frac{1}{2}$ percent or less defective will be acceptable most of the times.

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